

J. F. MILLER.
FIRE ESCAPE.

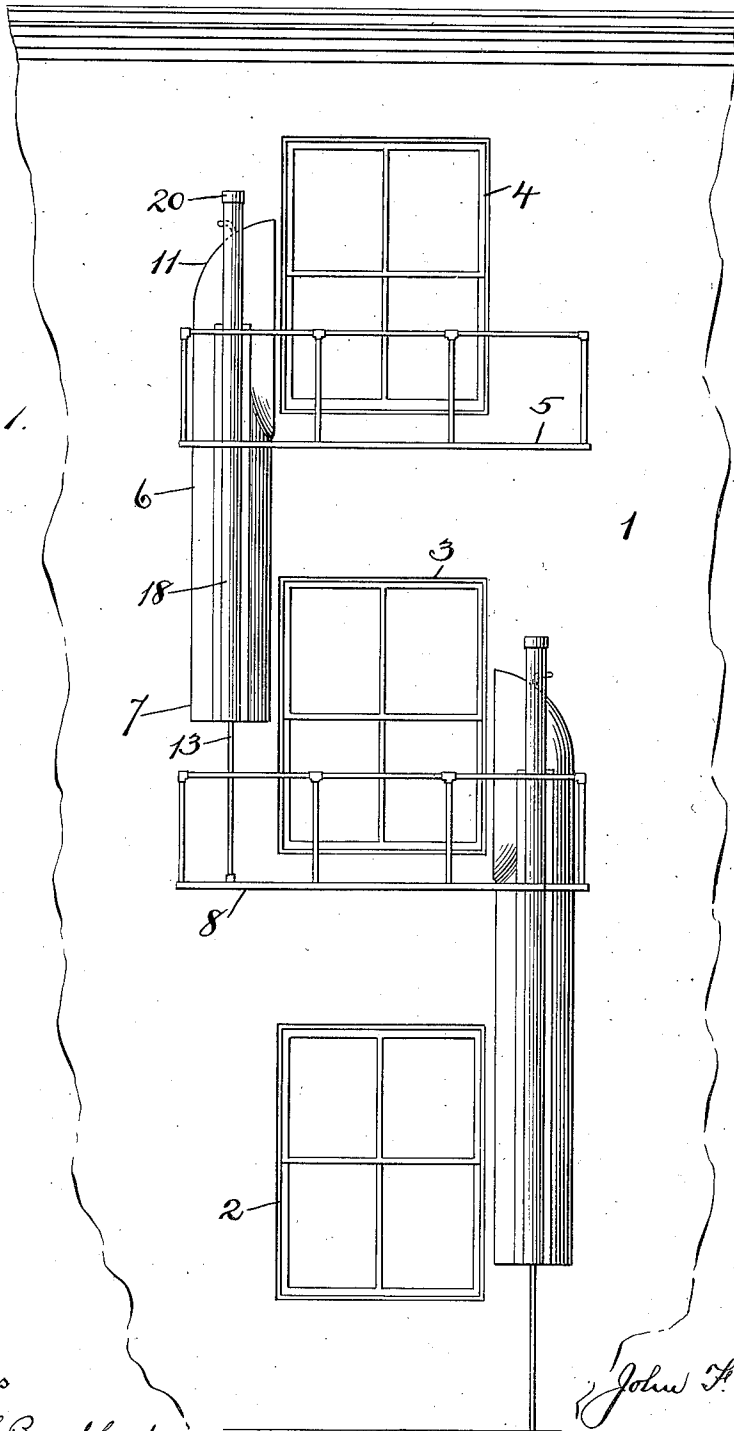
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Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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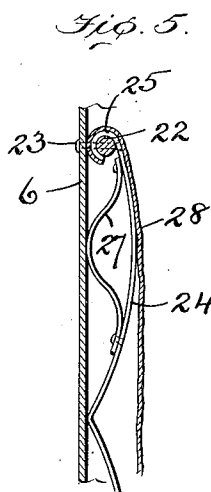
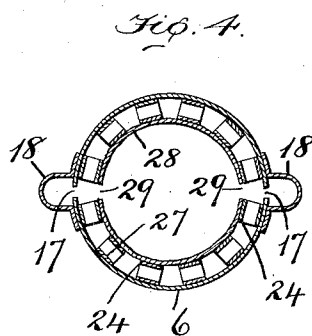
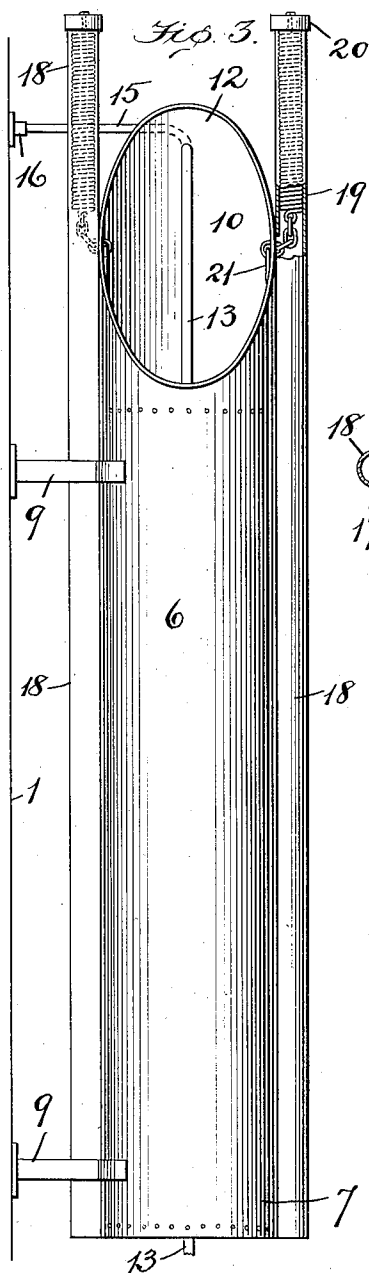
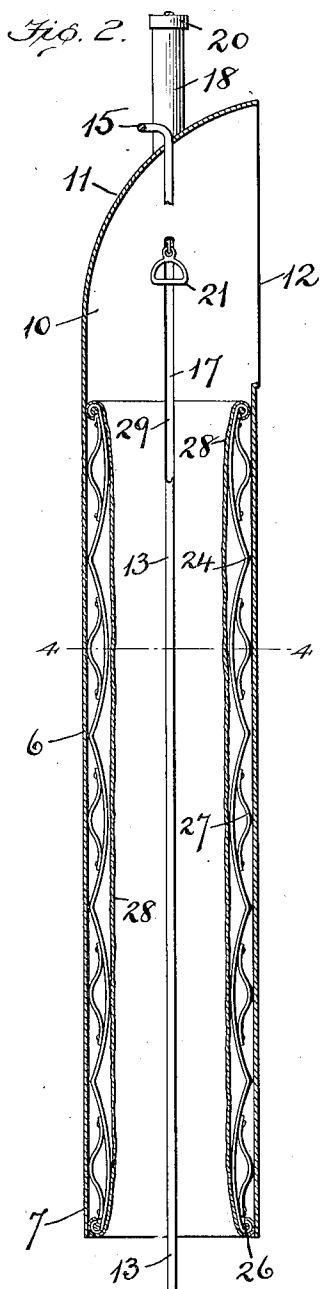
Attorneys.

FIRE ESCAPE.

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2 SHEETS--SHEET 2.

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UNITED STATES PATENT OFFICE.

JOHN F. MILLER, OF BALTIMORE, MARYLAND.

FIRE-ESCAPE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN F. MILLER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to improvements in fire escapes and has reference to that class of fire escapes wherein a plurality of platforms or balconies are provided on the exterior of a building,—one above another with cylindrical chutes extending from a platform above toward a platform beneath it.

The invention consists in the novel construction, combination and arrangement of devices hereinafter described and particularly pointed out in the claim.

The accompanying drawings illustrate the invention wherein,

Figure 1, shows a front elevation of the outside of a wall of a building comprising a plurality of floors and with my improved fire escape in place on said wall. Fig. 2, shows an enlarged vertical longitudinal section through one of the cylindrical chutes constructed in accordance with my invention. Fig. 3, shows an enlarged elevation of the same. Fig. 4, illustrates the cylindrical chute in cross-section,—the section being taken on the line 4—4 of Fig. 2, and Fig. 5, shows an enlarged sectional detail through the upper portion of one of the chutes and illustrates the construction of the flexible or yielding vertical interior wall thereof.

Referring to the drawings, and particularly Fig. 1, thereof it will be noted that the front wall, 1, of the building is shown in the present instance as having three floors,—the windows, 2, being located on the first floor; window, 3, on the second floor and window, 4, on the third floor, but obviously the particular number of floors is immaterial and may be more or less than shown. A platform or balcony is provided on the outside of the wall beneath or adjacent to each window and said platforms may be secured in place by any suitable means. The uppermost platform, 5, on the wall of the building is provided with a cylindrical chute, 6, whose lower end, 7, depends from the said platform and extends toward the platform, 8, beneath it. This chute may be sustained in any suitable man-

ner, such for example as by wall brackets, 9, by which it may be rigidly secured in place. The chute has an upper end, 10, that extends above the platform, 5, and which is closed on top by the wall, 11, curving upwardly from one side to the other. This upper end of the chute is also provided at one vertical side with an opening, 12, which extends upwardly from the platform and is of sufficient height to permit a person to enter the chute from the platform. A central rod, 13, extends from the upper end of the chute down to the platform, 8, beneath it, to which latter the lower end of said rod is secured. The upper end of the rod is held rigidly in a suitable way for example by extending it through the curved wall, 11, and then providing a lateral turn, 15, therein so as to project it toward the wall where it may be retained in a socket, 16. The rod, 13, is a slide rod and is stiff and rigid to enable a person to twine his legs about it effectively when sliding down. At diametrically opposite sides, the wall of the chute, 6, is provided with vertical slots, 17, which communicate with vertically-extending tubes, 18, on the exterior of the chute. These tubes, 18, project above the opening, 12, in the sides of the chute and each of them carries a coiled spring, 19, at the upper end. One end of the spring, 19, is secured to a cap, 20, on the upper end of the tube while the lower end thereof is provided with a short chain which projects through the slot, 17, in the chute wall and carries a hand-grasp or link, 21. Below the opening, 12, the interior of the chute, 6, is provided with an annular hoop or ring, 22, see Fig. 5, which is riveted or otherwise secured to the wall of the chute by means of suitable fastenings, 23. A plurality of corrugated metal strips, 24, have hooks, 25, at their upper ends which engage the hoops or rings, 22, and said strips extend vertically downward within the chute and have their lower ends rigidly secured to a ring or hoop, 26, at lower end of the chute. These metal strips are preferably slightly spaced from each other as shown in the cross-sectional view in Fig. 4, of the drawing. Suitable spring plates, 27, are secured to the metal strips at intervals between the upper and lower ends thereof and these plates being interposed between the strips and the inner surface of the chute wall tend to yieldingly press the strips inwardly and away from

the chute wall for a purpose presently to be described.

A tubular covering of suitable flexible material, 28, is passed through the chute so as to cover the various vertical strips and spring-plates, 27, and thus produce in the chute and around the rigid rod, 13, a tube that will expand and contract. The tubular covering is provided with two vertical slots, 29, whose position coincides with the two slots, 17, in the cylindric chute; through each slot will project into the interior of the chute a link of one of the chains before mentioned, and the hand-link, 21, attached thereto will thus be on the interior of the chute-lining, 28. This construction insures that the hand-links, 21, will be accessible to the hands of a person who may be descending the chute.

From the foregoing it will be seen that the chute has a central rod with an elastic friction tube in the chute between the rod and the chute-wall.

By reference to Fig. 1, it will be noted that the chute, 6, does not extend in the present instance to the platform, 8, but that the rod does extend to said platform. The object of this is to enable a person to pass through the chute and be free thereof when landing on the platform below, so that ready escape from beneath the lower open end of the chute may be made. Upon landing at one end of the platform, 8, a person may step across the platform to the other end and enter the chute that depends therefrom and so escape from one floor to another until the ground is reached. Upon entering a chute the person may grasp the hand-grasp or link, 21, with one hand and

twine the legs about the rod, and as the descent is made the person's body will pass through the inner elastic tube which will expand but will press close about the body and retard its descent. The link or hand grasp, 21, will also serve as a brake in that as the body descends the spring, 19, will stretch and as the body approaches the lower end of the chute the gradually increased back pull of the spring will be sufficient to bring the body to a gradual stop and thus prevent injury as the platform is reached. Obviously, when the link is released the spring, 19, will draw it upwardly toward the top of the chute for use by another person.

By providing the curved wall, 11, at the upper end persons escaping through the chute will be protected from falling debris which will be deflected.

Having thus described my invention what I claim and desire to secure by Letters Patent is,—

In a fire-escape the combination of a tubular chute down through which a person may pass; a tube extending parallel with the chute and having a slot which communicates with the interior of the chute; a coiled spring in said tube and extensible longitudinally thereof and the upper end of the spring being fastened; and a hand-link carried at the lower end of the said spring and movable up and down within the chute.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. MILLER.

Witnesses:

CHARLES B. MANN, Jr.,
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